

THE
AMERICAN JOURNAL
≡
OF
PHYSIOLOGY

VOLUME 151

BALTIMORE, MD.
1947

EP

*Medical
direct*

CONTENTS

No. 1. NOVEMBER, 1947

| | |
|--|-----|
| Regional Intrathoracic Pressures and Their Bearing on Calculation of Effective Venous Pressures. <i>Carl J. Wiggers, Matthew N. Levy and Gerald Graham</i> | 1 |
| Studies of the Venous Drainage of the Heart. <i>D. E. Gregg and R. E. Shipley</i> | 13 |
| Combination of Evans Blue with Plasma Protein: Its Significance in Capillary Permeability Studies, Blood Dye Disappearance Curves, and Its Use as a Protein Tag. <i>Harry H. LeVeen and William H. Fishman</i> | 26 |
| Effects of Muscle Trauma and of Hemorrhage Upon the Cardiac Output of the Dog. <i>Walter S. Root, William W. Walcott and Magnus I. Gregersen</i> | 34 |
| Measurement of Cardiac Output by a Continuously Recording Conductivity Method. <i>H. L. White</i> | 45 |
| Russell Viper Venom as a Means for Following the Anticoagulant Action of Heparin. <i>Edwin J. de Beer</i> | 58 |
| Components of the Prothrombin Complex. <i>Armand J. Quick</i> | 63 |
| Nitrogen Content of Femoral Arterial and Venous Blood in Anesthetized Dogs Denitrogenated by Continuous Inhalation of 99.6 Per Cent Oxygen. <i>Leonard Karel and Raymond E. Weston</i> | 71 |
| The Mediation of Feline Erection Through Sympathetic Pathways with Some Remarks on Sexual Behavior after Deafferentation of the Genitalia. <i>Walter S. Root and Philip Bard</i> | 80 |
| Effect of Thymectomy, Hyperthyroidism and Hypothyroidism on Neuromuscular Atrophy and Regeneration. <i>R. Diaz-Guerrero, J. D. Thomson and H. M. Hines</i> | 91 |
| On the Force and Size of Motor Units in the Rabbit's Sartorius Muscle. <i>A. Van Harreveld</i> | 96 |
| Effects of Diisopropyl Fluorophosphate (DFP) on Acetylcholine Stimulation of the Frog Rectus Abdominis Muscle. <i>John C. Finerty</i> | 107 |
| Urge to Eat and Drink in Rats. <i>Edward F. Adolph</i> | 110 |
| Effect of Estrogens on the Body and Organ Weights and the Arginase and 'Alkaline' and 'Acid' Phosphatases of the Liver and Kidney of Castrated Male Mice. <i>Charles D. Kochakian</i> | 126 |
| Thiouracil, Basal Metabolism, and Specific Dynamic Action. <i>Dulal Pada Sadhu and Samuel Brody</i> | 130 |
| Relaxation of the Pelvic Ligaments in Guinea Pigs by Estrogens and Prostigmine. <i>Frederick E. Emery and Alfred H. Lawton</i> | 134 |
| Tolerance to Potassium Intoxication in the Albino Rat. <i>Jonathan S. Thatcher and Arthur W. Radike</i> | 138 |
| Adaptation of the Albino Rat to Discontinuous Chronic Exposure to Altitude Anoxia. <i>Orr E. Reynolds and Norman E. Phillips</i> | 147 |
| Redistribution of Potassium, Sodium and Water in Burns and Trauma, and Its Relation to the Phenomena of Shock. <i>Charles L. Fox, Jr. and Harold Baer</i> | 155 |
| Independence of Phosphate Reabsorption and Glomerular Filtration in the Dog. <i>John L. Ayer, William A. Schiess and Robert F. Pitts</i> | 168 |
| Effect of Pitressin on the Urinary Excretion of Chloride and Water in the Human. <i>J. Maxwell Little, Stanley L. Wallace, Edwards C. Whatley and George A. Anderson</i> .. | 174 |
| Concentration and Transport of True Urate in the Plasma of the Azotemic Chicken. <i>R. Levine, W. Q. Wolfson and R. Lenel</i> | 186 |
| Clearance of Allantoin in the Rat and Dog as a Measure of Glomerular Filtration Rates. <i>Meyer Friedman and Sanford O. Byers</i> | 192 |
| Effect of Ureteral Ligation, Phloridzin and Mercury Bichloride on the Glucogenic Function of the Kidney. <i>Roger M. Reinecke, Guilford G. Rudolph and Melvin J. Bryson</i> | 198 |

| | |
|---|-----|
| Renal Clearance of Essential Amino Acids: Their Competition for Reabsorption by the Renal Tubules. Karl H. Beyer, Lemuel D. Wright, Helen R. Skeggs, Horace F. Russo and Grace A. Shaner..... | 202 |
| Endogenous and Exogenous Creatinine Clearances in the Rat. Richard W. Lippman..... | 211 |
| Effect of 2,3-Dimercaptopropanol on Diuresis. David P. Earle, Jr. and Robert W. Berliner..... | 215 |
| Effect of Lanatoside C Upon the Survival of Rats Subjected to Severe Hypothermia. J. M. Crisman and H. W. Elliott..... | 221 |
| Excretion of the Blue Dye, T-1824, in the Bile. A. T. Miller, Jr..... | 229 |
| A Re-evaluation of the T-1824 Mixing Curve. A. T. Miller, Jr..... | 234 |

No. 2. DECEMBER, 1947

| | |
|--|-----|
| Endocrine Influences on Cardiac Output and Oxygen Consumption in Dogs. H. L. White, Peter Heinbecker and Doris Rolf..... | 239 |
| An Evaluation of a Method Involving Carbon Dioxide Equilibration for Determining Cardiac Output. Frank D. Gray, Jr., Richard J. Bing and Leroy Vandam..... | 245 |
| Relation of the Salivary Flow to the Thirst Produced in Man by Intravenous Injection of Hypertonic Salt Solution. Joseph H. Holmes and Magnus I. Gregersen..... | 252 |
| Displacement of Blood from the Lungs by Pressure Breathing. Wallace O. Fenn, Arthur B. Otis, Hermann Rahn, L. E. Chadwick and A. H. Hegnauer..... | 258 |
| Effect of Pressure Breathing on Blood Flow through the Finger. Wallace O. Fenn and Leigh E. Chadwick..... | 270 |
| Oxygen and Carbon Dioxide Tensions of Alveolar Air and Arterial Blood in Healthy Young Adults at Rest and After Exercise. Morton Goldston and A. C. Wollack..... | 276 |
| Mixing of Cells, Plasma and Dye T-1824 in the Cardiovascular System of Barbitalized Dogs. Hampden C. Lawson, David T. Overbey, James C. Moore and O. W. Shadie..... | 282 |
| Rate of Disappearance of Dye T-1824 from Arterial Blood. David T. Overbey, James C. Moore, O. W. Shadie and Hampden C. Lawson..... | 290 |
| Measurement of Plasma Volume as the Distribution Volume of Injected Autogenous Plasma. Hampden C. Lawson, O. W. Shadie, James C. Moore and David T. Overbey..... | 297 |
| Effect of Plasma Injection on Dye and Cell Content of Arterial Blood. Hampden C. Lawson, David T. Overbey, O. W. Shadie and James C. Moore..... | 303 |
| Renal Tubular Reabsorption of Inorganic Sulfate in the Normal Dog. W. D. Lotspeich..... | 311 |
| Peripheral Visual Acuity of 55 Subjects Under Conditions of Flash Presentation. Frank N. Low..... | 319 |
| Effect of Partial and Complete Destruction of the Tactile Cerebral Cortex on Correct Conditioned Differential Foreleg Responses from Cutaneous Stimulation. William F. Allen..... | 325 |
| Plasma Ac-Globulin Activity. Robert C. Murphy, Arnold G. Ware and Walter H. Seegers..... | 338 |
| Pyridoxine, Ketonic Acids, and Specific Dynamic Action. D. P. Sadhu and Samuel Brody..... | 342 |
| Effect of Convulsant and Anticonvulsants Agents on Acetylcholine Metabolism (Activity of Choline Acetylase, Cholinesterase) and on Sensitivity to Acetylcholine of Effector Organs. Clara Torda and Harold G. Wolff..... | 345 |
| Protection of the Cerebral Circulation by the Cerebrospinal Fluid under the Influence of Radial Acceleration. Robert F. Rushmer, Edward L. Beckman and David Lee..... | 355 |
| Increased Sensitivity of Hypothermic Rats to Injected Potassium and the Influence of Calcium, Digitalis and Glucose on Survival. H. W. Elliott and J. M. Crisman..... | 366 |
| Effect of Pregnancy on the Course of Experimental Hypertension. Arthur Grollman..... | 373 |
| Effect of Dilute Saline Solutions on the Gastric Potential and the Secretion of HCl. Lowell E. Hokin and Warren S. Rehm..... | 380 |
| Role of Dietary Protein in Experimental Liver Regeneration: A Nitrogen Balance Study. Harry M. Vars and Fraser N. Gurd..... | 391 |

| | |
|---|-----|
| Effect of Dietary Protein Upon the Regeneration of Liver Protein in the Rat. <i>Harry M. Vars and Fraser N. Gurd</i> | 399 |
| Working Capacity in Patients with Orthopedic Handicaps from Poliomyelitis. I. Energy Expenditure in Walking at Various Speeds and Grades. <i>Ernst Simonson and Ancel Keys</i> | 405 |
| Forces Exerted at Different Velocities in Human Arm Movements. <i>R. J. Dern, Jack M. Levene and H. A. Blair</i> | 415 |
| Available and Interstitial Fluid Volumes of Normal Children. <i>Minerva Morse, Donald E. Cassels and Frederic W. Schlutz</i> | 438 |
| Blood Volumes of Normal Children. <i>Minerva Morse, Donald E. Cassels and Frederic W. Schlutz</i> | 448 |
| A Roentgenographic Study of the Effect of a Pneumatic Anti-Blackout Suit on the Hydrostatic Columns in Man Exposed to Positive Radial Acceleration. <i>Robert F. Rushmer</i> | 459 |
| Effects of a Narcotic Level of Carbon Dioxide on the Plasma Potassium and Respiration of Cats. <i>Joanna L. Mackay</i> | 469 |
| Effects on Man of High Concentrations of Carbon Dioxide in Relation to Various Oxygen Pressures During Exposures as Long as 72 Hours. <i>W. V. Consolazio, M. B. Fisher, N. Pace, L. J. Pecora, G. C. Pitts and A. R. Behnke</i> | 479 |
| Repeated Determinations of Plasma Volume, Blood Volume and Total Available Fluid in a Group of Normal Trained Dogs. <i>D. D. Bonnycastle</i> | 504 |
| A Relationship Between the Body Temperature and the Blood Pressure in the Chicken. <i>Simon Rodbard and Malkah Tolpin</i> | 509 |
| Transient Hypotension Following Rapid Intravenous Injections of Hypertonic Solutions. <i>Ernest E. Muirhead, Robert W. Lackey, Carl A. Bunde and Joseph M. Hill</i> | 516 |
| Effects of Chronic Starvation and Recovery on the Blood of the Young Rat. <i>Freeman H. Quimby</i> | 525 |
| Reduced Carbohydrate Intake after Fat Feeding in Normal Rats and Rats with Hypothalamic Hyperphagia. <i>Knud Lundbaek and James A. F. Stevenson</i> | 530 |
| Increased Tolerance to Severe Anoxia on Carbon Dioxide Administration. <i>R. F. Kline</i> | 538 |
| Types of Afferent Fibers in the Phrenic Nerve. <i>R. M. Kohrman, J. B. Nolasco and C. J. Wiggers</i> | 547 |
| Evidence from Crosstransfusion Experiments that the Diminished Urine Flow Accompanying Ischemic Compression Shock is not Due to Humoral Factors. <i>J. Maxwell Little, Harold D. Green and J. E. Hawkins, Jr.</i> | 554 |
| Tolerance to Heat and Dehydration in Several Species of Mammals. <i>Edward F. Adolph</i> | 564 |
| Sweating Patterns in the Skin Following Injections of Mecholyl. <i>Walter C. Randall, Isabel Dougherty and Ronald Deering</i> | 576 |
| Influence of High Fat Diets on Alloxan Diabetes. <i>R. G. Janes and M. Prosser</i> | 581 |
| Variations in the Effect of Anoxia on Performance. <i>D. M. Green</i> | 588 |
| Histamine Content of Canine Gastric Juice. <i>Charles F. Code, George A. Hallenbeck and Roderic A. Gregory</i> | 593 |
| Role of the Kidneys in Modifying the Response to the 'Sustained Pressor Principle.' <i>R. E. Shipley and O. M. Helmer</i> | 606 |
| Mechanics of Human Isolated Voluntary Muscle. <i>H. J. Ralston, V. T. Inman, L. A. Strait and M. D. Shaffrath</i> | 612 |
| Observations on the Effects of Adrenalin on Renal Function and Circulation in Man. <i>J. A. Barclay, W. T. Cooke and R. A. Kenney</i> | 621 |
| Thermal Exchanges of Man at High Temperatures. <i>Norton Nelson, Ludwig W. Eichna, Steven M. Horvath, Walter B. Shelley and T. F. Hatch</i> | 626 |